CLAIMS

Please enter the amendments to claims 1, 20, 21, 24, and 32 as shown below.

1. (Currently amended) A composition comprising a synthetic oligonucleotide consisting of about 25 to about 40 nucleotides that hybridizes specifically to a *pagA* target sequence contained in a *B. anthracis* target sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or a ~~substantially complementary~~ sequence that is complementary to a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or RNA equivalent of a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or RNA equivalent of a sequence that is complementary to a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24 ~~any one of the target sequences~~, wherein at least one oligonucleotide is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and SEQ ID NO:8.

2. (Canceled)

3. (Previously presented) The composition of claim 1, wherein the synthetic oligonucleotide that hybridizes specifically to the *pagA* target sequence contained in SEQ ID NO:21 consists of SEQ ID NO:1 or SEQ ID NO:2.

4. (Previously presented) The composition of claim 1, wherein the synthetic oligonucleotide that hybridizes specifically to the *pagA* target sequence contained in SEQ ID NO:22 consists of SEQ ID NO:3 or SEQ ID NO:4.

5. (Previously presented) The composition of claim 1, wherein the synthetic oligonucleotide that hybridizes specifically to the *pagA* target sequence contained in SEQ ID NO:23 consists of SEQ ID NO:5 or SEQ ID NO:6.

6. (Previously presented) The composition of claim 1, wherein the synthetic oligonucleotide that hybridizes specifically to the *pagA* target sequence contained in SEQ ID NO:24 consists of SEQ ID NO:7 or SEQ ID NO:8.

7. (Withdrawn - Previously presented) The composition of claim 1 that further comprises a synthetic oligonucleotide that hybridizes specifically to a *capB* target sequence of *B. anthracis*.

8. (Withdrawn - Previously presented) The composition of claim 7 wherein the oligonucleotide that hybridizes specifically to the *capB* target sequence consists of SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13 or SEQ ID NO:14.

9. (Canceled)

10. (Withdrawn - Previously presented) The composition of claim 1 that further comprises a synthetic oligonucleotide of about 18 to 40 bases that hybridizes specifically to a 16S rRNA or DNA encoding a 16S rRNA sequence of a *Bacillus* species contained in a target sequence consisting of SEQ ID NO:31, a complementary sequence, or RNA equivalent thereof.

11. (Withdrawn - Previously presented) The composition of claim 10, wherein the oligonucleotide that hybridizes specifically to the 16S rRNA or DNA encoding the 16S rRNA sequence of a *Bacillus* species consists of SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:37, SEQ ID NO:38, or SEQ ID NO:39.

12. (Withdrawn - Previously presented) The composition of claim 1 that further comprises a synthetic oligonucleotide of about 20 to 50 bases that hybridizes specifically to a 23S rRNA or DNA encoding a 23S rRNA sequence of a *Bacillus* species contained in a target sequence consisting of SEQ ID NO:32, a complementary sequence, or RNA equivalent thereof.

13. (Withdrawn - Previously presented) The composition of claim 12, wherein the oligonucleotide that hybridizes specifically to the 23S rRNA or DNA encoding the 23S rRNA sequence of a *Bacillus* species consists of SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:35, or SEQ ID NO:36.

14. (Previously presented) The composition of claim 1, wherein the synthetic oligonucleotide has a DNA or RNA backbone, or mixed DNA and RNA backbone, or contains at least one 2'-methoxy RNA group linking the bases.

15. (Withdrawn - Previously presented) The composition of claim 10, wherein the oligonucleotide that hybridizes specifically to the 16S rRNA or DNA encoding the 16S rRNA sequence of a *Bacillus* species has a DNA or RNA backbone, or mixed DNA and RNA backbone, or contains at least one 2'-methoxy RNA group linking the bases.

16. (Withdrawn - Previously presented) The composition of claim 12, wherein the oligonucleotide that hybridizes specifically to the 23S rRNA or DNA encoding the 23S rRNA sequence of a *Bacillus* species has a DNA or RNA backbone, or mixed DNA and RNA backbone, or contains at least one 2'-methoxy RNA group linking the bases.

17. (Previously presented) The composition of claim 1, wherein the synthetic oligonucleotide has a signal-producing label linked directly or indirectly to the oligonucleotide.

18. (Withdrawn - Previously presented) The composition of claim 10, wherein the oligonucleotide that hybridizes specifically to the 16S rRNA or DNA encoding the 16S rRNA sequence of a *Bacillus* species has a signal-producing label linked directly or indirectly to the oligonucleotide.

19. (Withdrawn - Previously presented) The composition of claim 12, wherein the oligonucleotide that hybridizes specifically to the 23S rRNA or DNA encoding the 23S rRNA sequence of a *Bacillus* species has

a signal-producing label linked directly or indirectly to the oligonucleotide.

20. (Withdrawn - Currently amended) A method of detecting *B. anthracis* nucleic acid in a sample comprising the steps of:

providing a sample containing *B. anthracis* nucleic acids;

providing at least one probe that hybridizes specifically to a *pagA* target sequence contained in a pXO1 plasmid ~~and at least one probe that hybridizes specifically to a *capB* target sequence contained in a pXO2 plasmid~~, wherein the probe that hybridizes specifically to the *pagA* target sequence is a synthetic oligonucleotide of about 25 to about 40 nucleotides that hybridizes specifically to a sequence contained in the *pagA* target sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, ~~SEQ ID NO:25, or SEQ ID NO:26,~~ or a ~~substantially complementary~~ sequence that is complementary to a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or RNA equivalent of a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or RNA equivalent of a sequence that is complementary to a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24 ~~any one of the *pagA* target sequences~~, wherein at least one oligonucleotide that hybridizes to the *pagA* target sequence is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and SEQ ID NO:8.;

hybridizing specifically at least one probe to the *pagA* target sequence~~, or at least one probe to the *capB* target sequence, or at least one probe to the *pagA* target sequence and at least one probe to the *capB* target sequence~~; and

detecting the presence of at least one probe hybridized to the *pagA* target sequence ~~or to the *capB* target sequence~~ to indicate the presence of *B. anthracis* in the sample.

21. (Withdrawn - Currently amended) The method of claim 20, further comprising:

in the second providing step, providing at least one probe that hybridizes specifically to a *capB* target sequence contained in a pXO2 plasmid, wherein the *capB* target sequence is contained in the sequence of SEQ ID NO:34, or a complementary sequence, or RNA equivalent thereof.

in the hybridizing step, hybridizing specifically the at least one probe to the *capB* target sequence, and

in the detecting step, detecting the presence of the at least one probe hybridized to the *capB* target sequence.

22. (Canceled)

23. (Canceled)

24. (Withdrawn - Currently amended) The method of claim [[20]] 21, wherein the ~~hybridizing step includes~~ at least one probe specific for a *capB* target sequence ~~which~~ is a synthetic oligonucleotide consisting of SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, or SEQ ID NO:14.

25. (Withdrawn - Previously presented) The method of claim 20, further comprising the steps of providing at least one probe that hybridizes specifically to a 16S or 23S rRNA sequence or DNA encoding a 16S or 23S rRNA sequence conserved among species of the *B. cereus* complex, hybridizing the at least one probe to the 16S or 23S rRNA sequence or DNA encoding the 16S or 23S rRNA sequence conserved among species of the *B. cereus* complex, and detecting the presence of at least one probe hybridized to the 16S or 23S rRNA sequence or DNA encoding the 16S or 23S rRNA sequence conserved among species of the *B. cereus* complex, thereby indicating the presence of a *B. cereus* complex organism in the sample.

26. (Withdrawn - Previously presented) The method of claim 25, wherein the at least one probe that hybridizes specifically to a 16S rRNA or DNA encoding a 16S rRNA sequence is an oligonucleotide of 18 to 40 bases that hybridizes specifically to a sequence contained in the sequence consisting of SEQ ID NO:31, a complementary sequence, or RNA equivalent thereof.

27. (Withdrawn - Previously presented) The method of claim 26, wherein the oligonucleotide that hybridizes specifically to the sequence contained in SEQ ID NO:31 consists of SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:37, SEQ ID NO:38, or SEQ ID NO:39.

28. (Withdrawn - Previously presented) The method of claim 25, wherein the at least one probe that hybridizes specifically to a 23S rRNA or DNA encoding a 23S rRNA sequence is an oligonucleotide of 20 to 50 bases that hybridizes specifically to a sequence contained in the sequence consisting of SEQ ID NO:32, a complementary sequence, or RNA equivalent thereof.

29. (Withdrawn - Previously presented) The method of claim 28, wherein the oligonucleotide that hybridizes specifically to the sequence contained in SEQ ID NO:32 consists of SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:35, or SEQ ID NO:36.

30. (Withdrawn - Previously presented) The method of claim 25, wherein the providing step further includes providing a probe that hybridizes specifically to a genetic sequence present in eubacterial species, wherein the hybridizing step further includes hybridizing the probe specifically to the genetic sequence present in eubacterial species, and wherein the detecting step further includes detecting the probe hybridized to the genetic sequence present in eubacterial species, thereby indicating that the method steps have been performed properly when no *Bacillus* sequences are detected in the assay.

31. (Withdrawn - Previously presented) The method of claim 30, wherein the probe that hybridizes specifically to the genetic sequence present in eubacterial species consists of SEQ ID NO:40, and wherein detecting the probe of SEQ ID NO:40 indicates the presence of a eubacterium in the sample.

32. (Currently amended) A kit comprising at least one synthetic oligonucleotide consisting of about 25 to about 40 nucleotides that hybridizes specifically to a sequence contained in a *pagA* target sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or a ~~substantially~~

~~complementary~~ sequence that is complementary to a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or RNA equivalent of a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24, or RNA equivalent of a sequence that is complementary to a sequence consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID NO:24 ~~any one of these *pagA* target sequences~~, wherein ~~said~~ the at least one synthetic oligonucleotide is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and SEQ ID NO:8.

33. (Canceled)

34. (Previously presented) The kit of claim 32, further comprising at least one synthetic oligonucleotide consisting of SEQ ID NO: 9, 10, 11, 12, 13 or 14 that hybridizes specifically to a *capB* target sequence of *B. anthracis*.

35. (Previously presented) The kit of claim 32, further comprising at least one synthetic oligonucleotide consisting of SEQ ID NO: 15, 16, 17, 18, 19, 20, 37, 38 or 39 that hybridizes specifically to a 16S rRNA or DNA encoding a 16S rRNA sequence of a *Bacillus* species.

36. (Previously presented) The kit of claim 32, further comprising at least one synthetic oligonucleotide consisting of SEQ ID NO: 27, 28, 29, 30, 35, or 36 that hybridizes specifically to a 23S rRNA or DNA encoding a 23S rRNA sequence of a *Bacillus* species.

37. (Previously presented) The kit of claim 32, further comprising at least one synthetic oligonucleotide consisting of SEQ ID NO:40 that hybridizes specifically to a genetic sequence present in eubacterial species.